United States Department of Agriculture

Soil Conservation Service

Montana Agricultural Experiment Station

Bozeman, Montana

MONTANA WATER SUPPLY OUTLOOK

Snowpack and Streamflow Forecasts as of April 1,1985

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
SNOW SURVEY UNIT
Federal Bldg., Rm. 443
10 East Babcock Street
Bozeman, MT 59715

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

****

1935-1985
50 Years of Soil and Water Conservation

Little improvement seen statewide

The snowfall pattern set earlier this winter is continuing. The northern half of the state continues to show near average snow cover in the headwater areas while below average snowpack is the rule for southern drainages. There was a little southward migration of the "good" snowline. Likewise, there was a little improvement in the three very low areas near Philipsburg, Bozeman and Red Lodge.

Low elevation snowmelt was observed near the end of March.

****

The Montana Water Supply Outlook is a publication of the U. S. Soil Conservation Service. The SCS administers the Cooperative Snow Survey Program in cooperation with other federal, state and private agencies, organizations, and individuals.

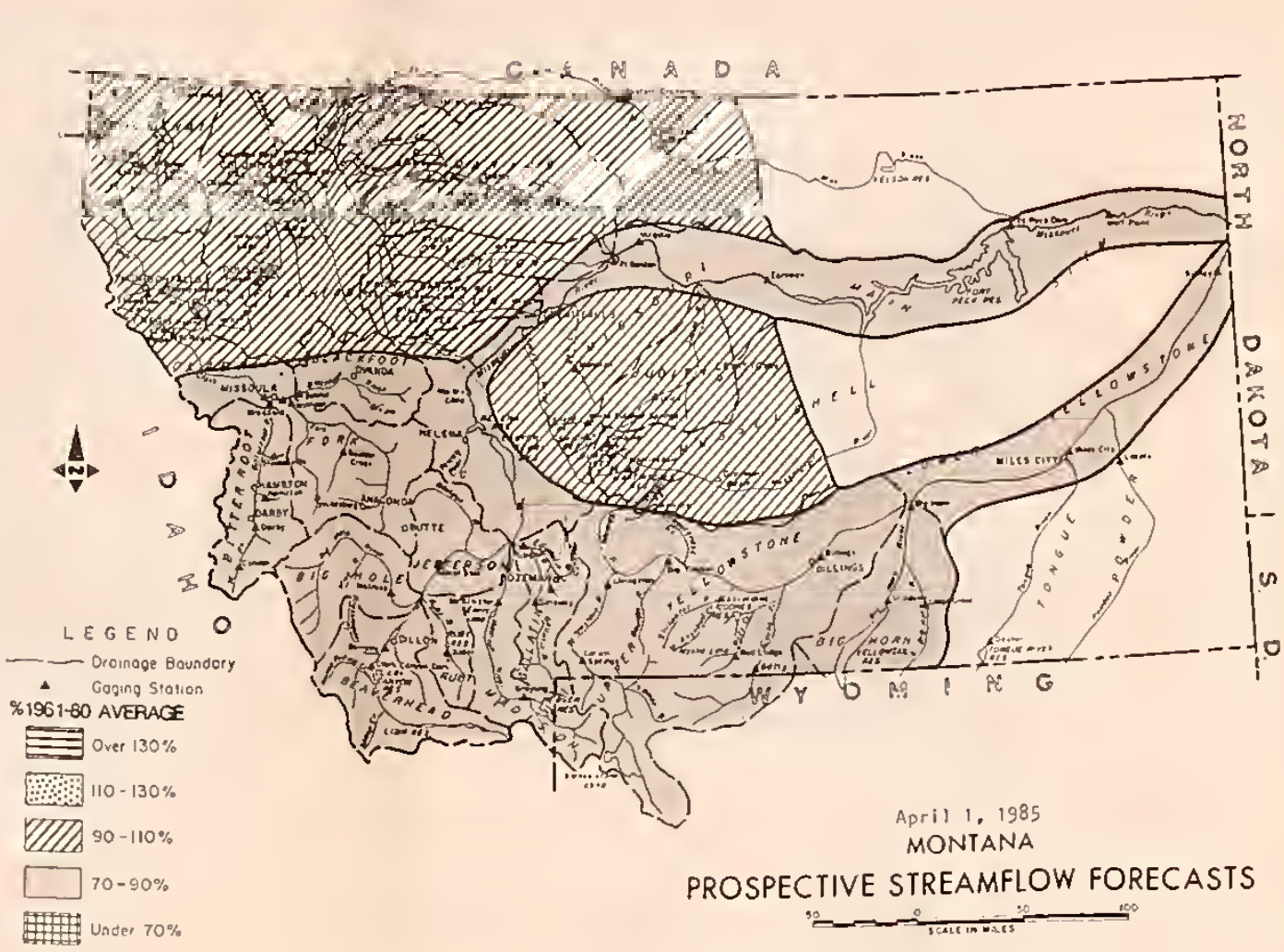
The report is prepared by SCS, Snow Survey and Water Supply Forecast Staff, Room 443, Federal Building, 10 East Babcock, Bozeman, Montana.

North near average, south below average

Spring and summer streamflows are forecast to be 15 to 20 percent less than average for the Missouri River headwaters and along the main stem of the Missouri, for almost all of the Yellowstone River system and for most of the Clark Fork River drainage west of the Divide.

Runoff within 10 percent of average is expected on streams in the Kootenai, Flathead and most downstream tributaries to the Missouri River.

Some shortages of irrigation water supplies are anticipated on the smaller streams across the southern part of the state.



Missouri River & Hudson Bay Drainages

STREAMFLOW FORECASTS APRIL 1, 1985

BASIN, STREAM and/or FORECAST POINT	THIS YEAR FORECAST Thousand Acre Feet	THIS YEAR FORECAST Percent of Average	PAST RECORD THOUSAND ACRE FEET Last Year	PAST RECORD THOUSAND ACRE FEET Average	THIS YEAR FORECAST Thousand Acre Feet	THIS YEAR FORECAST Percent of Average	PAST RECORD THOUSAND ACRE FEET Last Year	PAST RECORD THOUSAND ACRE FEET Average
PERIOD	APRIL - SEPTEMBER				APRIL - JULY			
RED ROCK RIVER near Monida (1)	92.0	89	244	103	86.0	89	212	96.3
BEAVERHEAD RIVER near Grant (2)	136	86	433	158	122	89	337	137
BEAVERHEAD RIVER at Barretts (2)	180	86		209	159	88		180
RUBY RIVER near Alder	87.5	86		101	73.5	86		84.6
BIG HOLE RIVER near Melrose	640	84		760	595	85		698
WILLOW CREEK near Harrison	17.0	85		20.0	15.5	87		17.8
MADISON RIVER near Grayling (3)	415	84	575	496	330	85	440	388
MADISON RIVER near McAllister (4)	705	83	1,114	848	570	85	874	672
GALLATIN RIVER near Gateway	460	84		545	395	85		464
SUM OF EAST+WEST FORKS HYALITE CR. nr Bozeman (5)	23.5	84		28.0	20.9	84		24.2
HYALITE CREEK near Bozeman (6)	38.8	86		44.8	33.8	87		38.7
GALLATIN RIVER at Logan	485	79		611	415	79		523
MISSOURI RIVER at Toston (7)	2,080	82	3,827	2,545	1,845	84	3,179	2,196
SHEEP CREEK near White Sulphur Springs	21.0	96		21.8	18.2	96		19.0
SUN RIVER at Gibson Dam (8)	545	96	336	570	500	96	296	522
BELT CREEK near Monarch	128	96		134	119	97		123
MISSOURI RIVER at Fort Benton (9)	3,250	82		3,980	2,920	84		3,468
TWO MEDICINE CREEK near Browning (10)	226	92		248	215	92		235
BADGER CREEK near Browning	118	90		130	102	90		113
INFLOW SWIFT RESERVOIR near Dupuyer	79.0	91		86.7	68.7	92		74.7
CUT BANK CREEK at Cut Bank	102	90		114	97.5	90		108
MARIAS RIVER near Shelby	489	90		542	470	91		518
MISSOURI RIVER at Virgelle (11)	3,795	83		4,570	3,425	85		4,030
MISSOURI RIVER near Landusky (11)	4,205	84		4,980	3,370	86		4,383
NORTH FORK MUSSELSHELL RIVER near Delpine	6.0	94		6.4	5.1	95		5.4
SOUTH FORK MUSSELSHELL RIVER above Martinsdale	57.5	92		62.8	54.7	93		58.9
MISSOURI RIVER below Fort Peck Dam (11)	4,100	83		4,961	3,810	86		4,428
MILK RIVER at Eastern Crossing	79.7	98		81.7				
MILK RIVER at Eastern Crossing (12)	235	95		248				
INFLOW LAKE SAKAKAWEA ND (11)	10,460	82		12,755	10,400	85		12,239
SASKATCHEWAN RIVER BASIN								
SWIFTCURRENT CREEK at Sherburne (13)	129	100	102	128	110	98	87.4	112
ST. MARY'S RIVER near Babb (13)	470	97		487	404	97		416

(1) Adjusted for storage in Lima Reservoir.
(2) Adjusted for storage in Lima and Clark Canyon Reservoirs.
(3) Adjusted for storage in Hebgen Lake.
(4) Adjusted for storage in Hebgen Lake and Ennis Lake.
(5) Sum of West Fork Hyalite Creek and East Fork Hyalite Creek above the Reservoir.
(6) Adjusted for storage in Middle Creek Reservoir.
(7) Adjusted for storage in Lima, Hebgen, Ennis & Clark Canyon Reservoirs.
(8) Adjusted for storage in Gibson Reservoir & diversions.
(9) Adjusted for storage in Lima, Clark Canyon, Hebgen, Ennis, Gibson, Pishkun, Willow Creek & Canyon Ferry Reservoirs.
(10) Adjusted for storage in Two Medicine Reservoir & diversions in Two Medicine Canal.
(11) Adjusted for all upstream reservoirs.
(12) Flow at Eastern Crossing minus St. Mary's Canal.
(13) Adjusted for storage in Lake Sherburne.

ALL FORECASTS PREPARED IN COOPERATION WITH THE NATIONAL WEATHER SERVICE

NOTE:
According to the Bureau of Reclamation; although forecasts at this time appear to be near normal - the outlook for water supply is critical because of unusual low storage in Fresno, Nelson and Sherburne.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period: Spring Season	Late Season
Beaverhead	Avg	Fair
Ruby	Avg	Fair
Big Hole	Avg	Fair
Boulder	Avg	Avg
Jefferson	Avg	Fair
Madison	Avg	Fair
Gallatin	Avg	Fair
West-Side Missouri	Avg	Avg
Smith-Belt	Avg	Avg
Sun	Avg	Avg
Teton	Avg	Avg
Marias	Avg	Avg
Judith	Avg	Avg
Musselshell	Avg	Avg
Milk	Avg	Fair
Bear Paws	Exc	Avg
St. Mary's	Avg	Avg

Little change in streamflow forecasts

Forecasts of spring and summer streamflows are similar to those issued last month.

Most of the streams in the headwaters of the Missouri are forecast to produce around 80 to 85 percent of average runoff. Downstream tributaries are expected to have flows that are near to 10 percent below average. Some increase in streamflows was observed in late March and early April as temperatures warmed and melted some of the low elevation snowpack.

Runoff in the main stem of the Missouri should be around 80 to 85 percent average.

Some shortages of mid- and late season irrigation water supplies are expected in the southwest. There are also some shortages anticipated along the Milk River where reservoir storage is well below average.

Missouri headwaters remain low

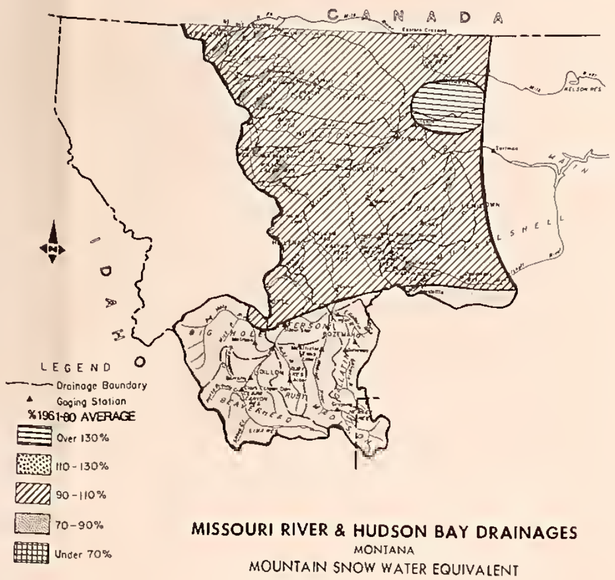
The Missouri River headwaters above Canyon Ferry Reservoir continue to show below average snowpack while all other areas are generally about average. The Bear Paw Mountains, south of Havre, still have above average snow water content even though some melt has occurred at lower elevations.

Snow in the Missouri headwaters is generally in the 80 to 90 percent of average range except for the Bridger Mountains near Bozeman where the winter's accumulation is about 70 percent of average.

Snow in the lower elevations began melting near the end of March.

SUMMARY of SNOW MEASUREMENTS
(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF Last Year	THIS YEAR'S SNOW WATER AS PERCENT OF Average
Beaverhead	31	94	87
Ruby	13	79	83
Big Hole	29	101	86
Boulder	15	94	86
Jefferson	88	94	86
Madison	34	87	87
Gallatin	24	81	77
Missouri Headwater	146	90	85
West-side Missouri (Toston-Cascade)	11	121	92
Smith-Belt-Arrow	11	103	91
Missouri Main-stem	22	110	92
Teton & Sun	12	213	95
Marias	7	153	90
Marias-Teton-Sun	19	177	92
Judith-Musselshell	19	93	94
Milk	11	157	106
Bear Paws	6	129	143
Missouri (Total)	217	99	88
Saskatchewan			
St. Mary's	7	156	96
Bow River in Alberta	14	101	82



MISSOURI RIVER & HUDSON BAY DRAINAGES
MONTANA
MOUNTAIN SNOW WATER EQUIVALENT

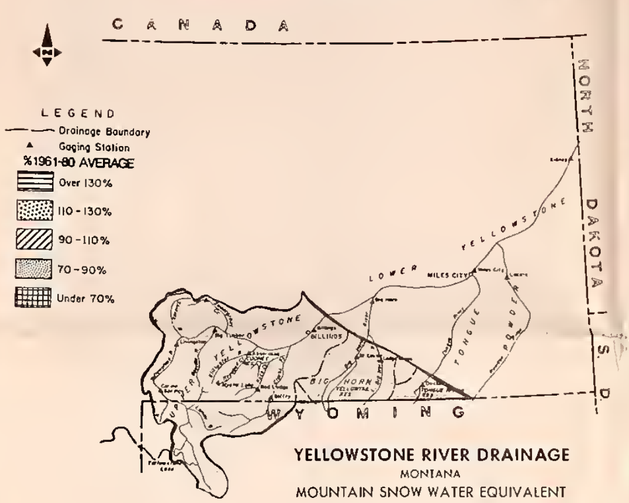
Yellowstone River Drainage

STREAMFLOW FORECASTS APRIL 1, 1985

BASIN, STREAM and/or FORECAST POINT	THIS YEAR FORECAST Thousand Acre Feet	THIS YEAR FORECAST Percent of Average	PAST RECORD THOUSAND ACRE FEET Last Year	PAST RECORD THOUSAND ACRE FEET Average	THIS YEAR FORECAST Thousand Acre Feet	THIS YEAR FORECAST Percent of Average	PAST RECORD THOUSAND ACRE FEET Last Year	PAST RECORD THOUSAND ACRE FEET Average
PERIOD	APRIL - SEPTEMBER				APRIL - JULY			
YELLOWSTONE RIVER at Corwin Springs	1,240	86	1,907	2,027	1,450	86	1,822	1,696
YELLOWSTONE RIVER near Livingston	2,025	85		2,379	1,675	85		1,969
BOULDER RIVER at Big Timber	330	83		398	310	85		366
STILLWATER near Absarokee (1)	540	85		632	450	85		528
CLARKS FORK RIVER near Belfry	500	80		628	450	80		563
ROCK CREEK near Red Lodge	98.0	85		115	75.0	85		88.1
INFLOW COONEY RESERVOIR near Boyd (2)	51.5	85		60.5	42.0	85		49.5
YELLOWSTONE RIVER at Billings	3,810	85	4,262	4,516	3,335	87	3,594	3,833
BIGHORN RIVER near St. Xavier (3)	1,680	85	1,974	1,976	1,550	86	1,688	1,794
LITTLE BIGHORN RIVER near Hardin	145	80		182	130	81		162
TONGUE RIVER near Decker	215	80		269	195	80		244
YELLOWSTONE RIVER at Miles City (4)	5,710	84		6,787	5,080	86		5,906
POWDER RIVER at Moorhead	191	73		263	180	74		243
YELLOWSTONE RIVER near Sidney (5)	6,195	82		7,518	5,370	82		6,544

(1) Adjusted for storage in Mystic Lake.
(2) Adjusted for storage in Cooney Reservoir.
(3) Adjusted for storage in Buffalo Bill, Boysen, Bull Lake, Pilot Butte and Bighorn Reservoirs.
(4) Adjusted for storage in Bull Lake, Buffalo Bill, Boysen, Pilot Butte, Bighorn and Tongue River Reservoirs.
(5) Adjusted for reservoirs shown in (4) and diversions into the Lower Yellowstone Canal.

ALL FORECASTS PREPARED IN COOPERATION WITH THE NATIONAL WEATHER SERVICE



YELLOWSTONE RIVER DRAINAGE
MONTANA
MOUNTAIN SNOW WATER EQUIVALENT

Some water shortages possible

April through September runoff is forecast to be 15 to 20 percent below average on most of the Yellowstone River drainages. Some mid- and late season shortages of irrigation water supplies are expected on smaller streams.

Most streams started rising near the end of March as temperatures warmed and low elevation snow began to melt.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period: Spring Season	Late Season
Yellowstone at Livingston	Avg	Fair
Shields	Fair	Fair
Boulder	Avg	Fair
Sweetgrass - Big Timber	Fair	Fair
Stillwater	Avg	Fair
Rock Creek	Avg	Fair
Clark's Fork	Fair	Fair
Yellowstone above Bighorn	Fair	Fair
Bighorn	Fair	Fair
Little Bighorn	Fair	Poor
Tongue	Fair	Fair
Powder	Fair	Fair
Lower Yellowstone	Fair	Fair

SUMMARY of SNOW MEASUREMENTS
(COMPARISON WITH PREVIOUS YEARS)

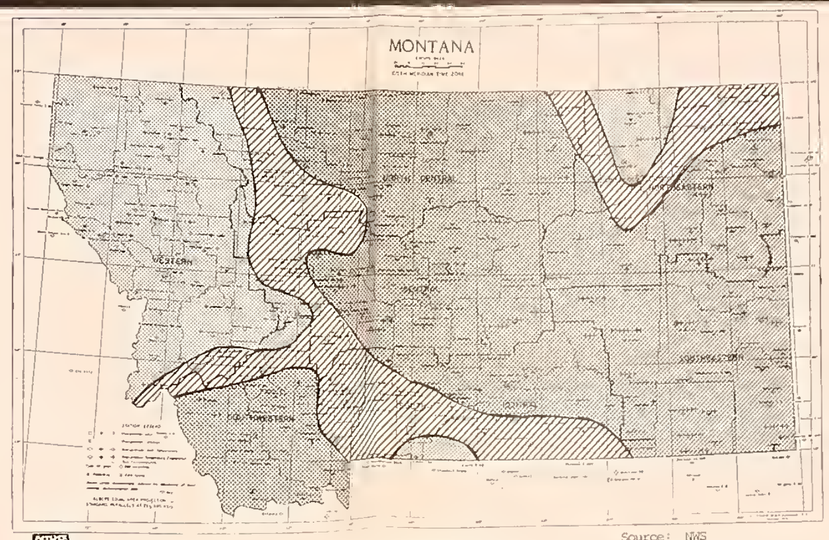
RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF Last Year	THIS YEAR'S SNOW WATER AS PERCENT OF Average
Upper Yellowstone ab Livingston	20	111	82
Shields	10	74	76
Boulder & Stillwater	11	114	85
Rock Creek & Clark's Fork	16	106	81
Yellowstone (ab Bighorn River)	57	103	81
Bighorn/Wyoming	30	87	74
Little Bighorn	3	76	73
Tongue	9	79	78
Powder	5	76	72
Yellowstone (Total)	101	96	79

Snowpack still below average

This season's accumulation of water in the snowpack is below average for all of the Yellowstone River headwaters and tributaries. Most areas have about 80 to 85 percent of their usual snowpack.

Around Red Lodge, snowpack levels continue to be lower than other parts of the Yellowstone. In this area, the snow is only 70 to 75 percent of average.

Some melting of low elevation snow has begun.



VALLEY PRECIPITATION
MARCH 1985

Source: NWS Great Falls, MT

SNOW SURVEY DATA

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-80
MONTANA						
ABUNDANCE LAKE	8800	3/29/85	64	18.0	18.3	22.0
AMBROSE	6480	3/28/85	47	13.2	12.1	14.1
ARCH FALLS	7350	3/26/85	43	11.6	11.8	13.8
ASHLEY DIVIDE	4820	3/28/85	26	7.7	4.3	6.1
ASHLEY LAKE	4000	3/28/85	26	7.3	3.7	5.6
BADGER PASS	6900	4/02/85	92	34.2	26.0	40.4
BADGER PASS BUTYL	6900	4/01/85	---	28.8	21.8	37.0
BALD EAGLE PEAK	5700	3/25/85	158	65.6	44.2	62.9
BALD RIDGE	7500	3/29/85	58	13.6	15.6	14.2
BANFIELD MOUNTAIN	5600	3/25/85	60	22.1	11.4	24.5
BANFIELD MTN BUTYL	5600	4/01/85	---	18.3	10.7	19.8
BAREE CREEK	5500	3/28/85	110	45.1	29.9	48.9
BAREE MIDWAY	4600	3/28/85	107	39.3	20.9	38.1
BAREE TRAIL	3800	3/28/85	38	12.5	1.0	9.5
BARKER LAKES	8250	4/03/85	53	15.2	13.0	16.4
BARKER LAKES BUTYL	8250	4/01/85	---	15.9	14.4	16.9
BASIN CREEK	7180	3/27/85	44	9.5	8.4	8.5
BASIN CREEK METAL	7180	4/01/85	---	8.7	8.1	8.1
BASSOO PEAK	5150	4/01/85	39	12.2	4.1	11.2
BEAGLE SPRINGS	8850	3/30/85	34	7.4	8.6	9.5
BEAGLE SPGS METAL	8850	4/01/85	---	7.5	9.2	9.5
BEAR BASIN	8150	3/27/85	61	16.2	23.0	22.3
BEAR PAW SKI AREA	5200	3/29/85	38	11.2	8.4	7.7
BEAVER LAKE	5900	4/02/85	61	21.4	14.0	24.8
BERRY MEADOW	7000	3/27/85	30	7.1	8.0	8.3
BIG CREEK	6750	4/03/85	107	40.7	42.0	47.2
BIG SKY	7700	4/01/85	53	16.6	18.2	16.6
BIG SKY MEADOW	6350	3/27/85	39	8.5	11.1	10.2
BIG SNOWY	7150	3/25/85	66	22.3	28.8	23.1
BLACK BEAR	7950	3/25/85	103	38.0	37.1	43.9
BLACK BEAR BUTYL	7950	4/01/85	---	36.5	32.9	39.0
BLACK MOUNTAIN	7750	4/02/85	55	15.7	16.5	16.7
BLACK PINE	7100	3/29/85	39	10.2	10.4	14.7
BLACK PINE BUTYL	7100	4/01/85	---	11.1	12.1	15.4
BLOODY DICK	7600	3/29/85	47	12.6	12.0	14.4
BLOODY DICK BUTYL	7550	4/01/85	---	11.9	11.6	12.9
BLUE LAKE	5900	4/02/85	67	24.6	15.8	27.0
BOTS SOTS	7750	3/27/85	28	7.5	8.6	8.6
BOULDER MOUNTAIN	7950	3/25/85	61	19.6	20.8	20.2
BOULDER MTN BUTYL	7950	4/01/85	---	19.7	22.0	22.7
BOX CANYON	6670	3/30/85	45	11.1	6.9	13.2
BOX CANYON METAL	6700	4/01/85	---	9.0	4.3	11.2
BRANHAM LAKES	8850	3/27/85	87	26.0	32.6	31.5
BRIDGER BOWL	7250	3/25/85	57	18.8	27.1	29.2
BRIDGER BOWL BUTYL	7250	3/25/85	---	17.9	27.2	27.7
BRISTOW CREEK	3900	3/25/85	29	11.4	.0	11.4
BRUSH CREEK TIMBER	5000	3/29/85	40	11.4	5.0	10.3
BULL MOUNTAIN	6600	3/29/85	27	6.8	6.1	6.5
CABIN CREEK	5200	3/29/85	30	7.2	.9	7.0
CALL ROAD	8050	3/30/85	42	9.7	13.3	13.0
CALVERT CREEK	6430	3/28/85	40	9.8	9.1	12.2
CALVERT CREEK BUTYL	6430	4/01/85	---	8.0	6.7	9.3
CAMP [illegible]	6400	3/26/85	132	52.4	53.5	50.0
CAMP SENIA	7890	3/27/85	20	5.1	7.2	7.4
CARROT BASIN	9000	3/29/85	92	28.9	32.2	38.6
CARROT BASIN BUTYL	9000	4/01/85	---	23.2	27.3	29.9
CASHE CREEK	7800	4/01/85	30	7.4	11.2	--
CASHE CREEK METAL	7800	4/01/85	---	8.4	9.1	9.3
CEDAR GROVE	3760	3/25/85	50	17.1	.0	13.2
CHESSMAN RESERVOIR	6200	3/28/85	22	5.6	3.4	3.9
CHICKEN CREEK	4060	3/26/85	40	13.4	10.0	15.5
CLOVER MEADOW	8600	3/30/85	59	16.0	18.9	19.1
CLOVER MEADOW METAL	8800	4/01/85	---	15.4	20.3	17.9
COLE CREEK	7850	4/01/85	49	13.6	17.6	18.9
COLE CREEK BUTYL	7850	4/01/85	---	13.1	18.0	17.6
COLLEY CREEK	6300	3/28/85	31	7.1	6.4	9.4
COMBINATION	5600	3/28/85	23	4.6	5.4	6.6
COMBINATION BUTYL	5600	4/01/85	---	5.8	4.9	6.6
COOKE STATION	8150	3/28/85	61	17.4	14.8	21.0
COPPER BOTTOM	5200	4/02/85	36	12.4	6.6	11.4
COPPER BOTTOM BUTYL	5200	4/01/85	---	12.9	8.1	13.3
COPPER CAMP BUTYL	6950	4/01/85	---	29.3	19.5	39.3
COPPER CAMP	6950	4/02/85	65	26.1	19.1	32.8
COPPER CREEK	5700	4/02/85	36	14.0	8.5	15.5
COPPER LAKE CREEK	6100	4/02/85	59	22.9	14.4	25.2
COPPER MOUNTAIN	7700	3/25/85	42	9.5	11.4	12.2
COTTONWOOD CREEK	6400	3/29/85	43	10.6	--	9.0
COYOTE HILL	4200	3/25/85	34	11.3	5.0	10.4
CREVICE MOUNTAIN	8400	3/29/85	40	10.0	9.3	11.5
CRYSTAL LAKE	6050	3/25/85	49	13.8	19.0	15.1
CRYSTAL LAKE METAL	6050	4/01/85	---	16.8	17.8	14.3
DAP CREEK LAKE	8400	3/30/85	48	12.5	14.9	15.4
DAISY PEAK	7600	3/25/85	40	9.4	8.4	12.2
DALY CREEK	5780	3/28/85	44	11.4	10.9	12.7
DALY CREEK METAL	5780	4/01/85	---	10.8	9.4	14.4
DARKHORSE LAKE	8600	3/29/85	75	21.9	25.7	28.9
DARKHORSE LK. METAL	8700	4/01/85	---	18.6	24.6	25.2
DAVIS CREEK	5400	3/25/85	62	21.6	15.0	26.2
DEADMAN CREEK	6450	3/28/85	47	11.5	10.6	12.2
DEADMAN CREEK BUTYL	6450	4/01/85	---	11.6	9.6	11.4
DESERT MOUNTAIN	5600	3/26/85	52	17.7	12.5	16.6
DEVILS SLIDE	8100	3/26/85	63	17.4	23.0	23.7
DISCOVERY BASIN	7050	3/28/85	37	9.8	11.7	11.1
DIVIDE	7800	3/30/85	37	10.1	12.5	12.0
DIVIDE BUTYL	7800	4/01/85	---	9.8	12.2	12.2
DIX HILL	6400	3/31/85	35	10.9	11.5	11.4
DUPUYER CREEK BUTYL	5750	4/01/85	---	13.0	5.2	--
EAGLE CREEK	[illegible]	3/27/85	47	13.0	14.2	15.5
EAST BOULDER S	[illegible]	4/02/85	84	27.0	23.0	32.8
EAST FORK R.S.	5400	3/25/85	23	6.1	4.4	6.2
EL DORADO MINE	7800	3/26/85	63	17.3	19.2	22.8
ELK HORN SPRINGS	7800	3/29/85	41	8.0	7.5	9.9
ELK PEAK	8000	3/26/85	51	14.8	16.7	15.3
EMERY CREEK	4350	3/26/85	49	18.2	12.0	16.3
EMERY CREEK BUTYL	4350	4/01/85	---	19.1	11.6	16.5
FATTY CREEK	5500	4/03/85	69	25.8	22.0	25.0
FISH CREEK	8000	3/27/85	46	9.9	9.4	10.2
FISHER CREEK	9100	3/28/85	100	36.1	29.3	41.1
FISHER CREEK BUTYL	9100	4/01/85	---	30.2	26.7	38.0
FIVE-BULL	5700	4/02/85	26	8.5	.0	7.7
FLATTOP MTN BUTYL	6300	4/01/85	---	44.5	33.6	[illegible]
FLEECER RIDGE	7500	3/29/85	41	11.2	8.4	12.0
FOOLHEN	8280	3/29/85	53	14.2	13.7	18.3
FOREST LAKE	6400	3/27/85	42	12.0	10.3	13.7
FOUR MILE	6900	3/26/85	39	9.6	9.0	9.4
FOURTH OF JULY	3450	3/28/85	37	11.8	3.6	9.2
FRED BURR PASS	8000	4/01/85	67	19.6	25.4	26.7
FREIGHT CREEK	6000	4/02/85	44	14.8	8.7	16.7
FRIDAY HILL	4620	3/28/85	66	21.5	13.0	24.5
FROHNER MEADOWS	6480	3/28/85	24	6.4	6.8	8.9
FROHNER MDWS BUTYL	6480	4/01/85	---	8.2	8.3	8.8
GARVER CREEK	4250	3/25/85	34	11.2	5.3	11.3
GARVER CREEK BUTYL	4250	4/01/85	---	10.0	4.2	10.2
GIBBONS PASS	7100	3/25/85	68	22.0	22.3	24.2
GOAT MOUNTAIN	7000	3/30/85	39	11.1	5.3	11.5
GOLD CREEK LAKE	7200	3/26/85	48	12.8	15.5	17.0
GOLD STONE	8100	3/29/85	55	15.4	16.6	18.2
GRASSHOPPER	7000	3/26/85	31	7.8	6.2	6.4
GRAVE CREEK	4300	3/25/85	53	18.2	11.8	18.3
GRAVE CRK BUTYL	4300	4/01/85	---	18.6	11.6	17.1
GRIFFIN CREEK DIVIDE	5150	4/01/85	40	12.8	6.6	12.1
GUNSIGHT LAKE	6300	4/03/85	102	37.1	31.9	41.6
HAND CREEK	5030	3/29/85	49	14.9	9.2	15.0
HAND CREEK BUTYL	5030	4/01/85	---	13.1	8.2	16.0
HAWKINS LAKE	6450	3/25/85	73	28.2	19.7	33.5
HAWKINS LAKE BUTYL	6450	4/01/85	---	22.6	16.2	30.9
HEART LAKE TRAIL	4800	3/29/85	69	25.8	15.8	23.0
HEBGEN DAM	6550	3/28/85	44	10.6	13.0	12.5
HELL ROARING DIVIDE	5770	4/01/85	84	30.8	24.0	33.1
HERRIG JUNCTION	4850	3/26/85	71	24.4	18.0	28.6
HOLBROOK	4530	4/03/85	17	9.6	4.2	10.2
HOOD MEADOW	6600	3/26/85	37	9.2	10.3	12.0
HOODOO BASIN	6050	3/29/85	124	52.4	39.3	52.7
HOODOO BASIN BUTYL	6050	4/01/85	---	43.4	34.7	47.1
HOODOO CREEK	5900	3/29/85	113	46.4	36.2	49.2
INDEPENDENCE	7850	3/30/85	66	16.8	13.2	19.6
INTERGAARD	6450	3/26/85	30	6.4	7.5	9.3
JAHNKE LAKE TRAIL	7200	3/29/85	45	11.2	8.8	10.2
JOHNSON PARK	6450	3/26/85	23	5.5	5.1	7.7
KEELER CREEK	3300	3/25/85	45	19.0	.0	11.3
KINGS HILL	7500	3/28/85	57	15.2	13.6	15.2
KISHENEHN	3890	3/30/85	29	7.2	1.4	7.8
KIWANIS CAMP	3720	3/29/85	3	.6	.0	1.2
KRAFT CREEK METAL	4750	4/01/85	---	13.6	9.7	12.4
LAKE CREEK	6100	3/30/85	31	7.0	9.5	9.2
LAKEVIEW CANYON	6930	3/25/85	50	11.2	8.6	13.2
LAKEVIEW RIDGE	7400	3/25/85	47	10.5	8.1	11.6
LAKEVIEW RDG. METAL	7400	4/01/85	---	13.4	11.2	13.1
LEMHI PASS	7480	3/30/85	34	9.1	9.2	9.6
LEMHI RIDGE	8100	3/30/85	40	10.0	11.0	11.0
LEMHI RIDGE BUTYL	8100	4/01/85	---	9.8	12.3	11.4
LICK CREEK	6860	3/26/85	42	9.9	11.9	11.0
LICK CREEK BUTYL	6860	4/01/85	---	9.6	11.0	10.1
LITTLE PARK	7400	3/27/85	54	12.9	17.0	17.2
LOGAN CREEK	4300	3/29/85	30	7.9	3.6	7.7
LONE MOUNTAIN	8880	4/01/85	68	23.4	23.4	23.9
LOST HORSE	5940	3/27/85	81	29.4	27.2	34.4
LOST SOUL	4800	3/25/85	48	15.9	8.0	16.0
LOWER TWIN	7900	3/26/85	69	21.4	22.4	22.8
LOWER TWIN METAL	7900	4/01/85	---	16.4	20.3	21.3
LUBRECHT FLUME	4680	4/01/85	6	2.2	.0	4.2
LUBRECHT FLUME BUTYL	4680	4/01/85	---	3.5	.0	5.5
LUBRECHT FOREST NO 3	5450	3/29/85	20	5.2	4.8	7.5
LUBRECHT FOREST NO 4	4650	3/29/85	6	1.6	.0	2.6
LUBRECHT FOREST NO 6	4040	3/29/85	4	1.3	.0	2.8
LUBRECHT HYDROPLOT	4200	4/01/85	5	2.4	.0	5.9
MADISON PLATEAU	7750	3/25/85	82	21.4	20.0	24.5
MADISON PLT BUTYL	7750	3/25/85	---	22.4	18.0	25.2
MANY GLACIER	4900	3/30/85	64	21.2	13.2	21.7
MANY GLACIER BUTYL	4900	4/01/85	---	18.6	12.1	19.3
MARIAS PASS	5250	3/31/85	56	20.1	11.4	18.5
MAYNARD CREEK	6210	3/25/85	41	12.5	15.3	16.9
MAYNARD CREEK BUTYL	6210	3/25/85	---	8.2	12.2	13.3
MIDDLE MILL CREEK	7850	3/27/85	57	14.2	19.7	17.8
MILL CREEK	7500	3/28/85	43	10.2	12.0	14.5
MINERAL CREEK	4000	3/27/85	52	18.2	11.8	18.8
MONUMENT PEAK	8850	3/30/85	84	24.2	19.4	28.2
MONUMENT PEAK METAL	8850	4/01/85	---	18.1	16.7	24.3
MOULTON RESERVOIR	6850	3/31/85	36	8.1	8.8	7.0
MOUNT LOCKHART	6400	3/31/85	66	22.6	14.2	24.4
MT LOCKHART BUTYL	6400	4/01/85	---	19.9	12.1	23.1
MUDD LAKE	7650	3/28/85	60	17.4	16.0	21.5
MULE CREEK	8300	3/29/85	53	13.2	12.0	16.0
MULE CREEK METAL	8300	4/01/85	---	13.8	12.7	15.6
NEVADA CREEK	6480	4/02/85	43	14.5	10.6	15.0
NEVADA CREEK METAL	6480	4/01/85	---	13.7	7.8	14.3
NEW WORLD	6900	3/25/85	45	13.5	16.7	16.5
NEWTON MOUNTAIN	5600	4/05/85	90	36.0	22.5	39.2
NEZ PERCE CAMP	5650	3/26/85	44	13.7	13.6	15.9
NEZ PERCE CMP BUTYL	5650	4/01/85	---	14.2	13.7	15.9
NEZ PERCE CREEK	6600	3/25/85	23	5.2	7.8	7.4
NEZ PERCE PASS	6570	3/26/85	43	14.4	17.0	18.3
NOISY BASIN	6040	3/26/85	124	46.8	50.1	46.6
NOISY BASIN BUTYL	6040	4/01/85	---	41.5	45.9	40.5
NORTH FORK ELK CREEK	6250	3/30/85	37	11.1	9.6	13.2
N.FORK ELK CRK BUTYL	6250	4/01/85	---	10.7	10.0	13.1
NORTH FORK JOCKO	6330	4/03/85	97	35.9	39.8	47.6
NORTH MEADOW	7500	3/26/85	42	10.6	9.6	9.3
NORTHEAST ENTRANCE	7350	4/01/85	39	7.5	6.5	10.1
N.E. ENTRANCE BUTYL	7350	4/01/85	---	8.0	7.3	10.0
NOTCH	8500	3/30/85	50	12.9	20.8	17.2
OPHIR PARK	7150	3/31/85	55	17.8	17.9	18.5
PALISADE CREEK	8250	3/28/85	77	27.3	24.4	31.0
PETERSON MEADOWS	7200	3/27/85	45	10.8	11.6	11.2
PETERSON MDW BUTYL	7200	3/27/85	---	10.1	11.1	11.6
PICKET PIN D	9450	4/02/85	69	23.5	20.5	27.5
PICKET PIN LOWER	6200	3/28/85	20	5.4	5.4	2.4
PICKET PIN MIDDLE	7250	3/26/85	39	12.4	11.2	14.1
PICKET PIN UPPER	8100	3/28/85	61	17.8	19.2	22.2
PICKFOOT CREEK	6650	3/25/85	34	10.5	9.5	12.1
PICKFOOT CRK METAL	6650	4/01/85	---	8.5	9.7	13.2
PIKE CREEK	5930	3/21/85	73	26.6	15.6	28.7
PIKE CREEK BUTYL	5930	4/01/85	---	30.0	17.4	30.1
PIPESTONE PASS	7200	3/25/85	27	5.8	5.0	6.1
PLACER BASIN F	8830	4/02/85	52	19.0	18.0	22.4
PLACER BASIN METAL	8830	4/01/85	---	15.8	15.6	17.9
POORMAN CREEK	5100	3/25/85	96	38.5	24.2	36.9
POORMAN CRK BUTYL	5100	4/01/85	---	38.0	21.4	33.8

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-80
PORCUPINE	6500	3/29/85	40	8.4	9.1	8.6
PORCUPINE BUTYL	6500	4/01/85	---	7.7	8.8	8.0
POTOMAGETON PARK	7150	3/28/85	46	11.6	14.6	15.4
RED MOUNTAIN	6000	4/01/85	56	17.5	11.8	19.9
RED TOP	5260	4/04/85	76	29.6	17.8	32.1
ROCK CREEK	5600	3/25/85	45	13.4	17.0	10.8
ROCK CREEK MEADOW	8160	3/25/85	57	15.4	18.5	24.8
ROCKER PEAK	8000	3/27/85	46	12.8	13.6	16.2
ROCKER PEAK BUTYL	8000	4/01/85	---	12.7	11.3	15.9
ROCKY BOY	4700	3/29/85	23	7.8	6.4	5.0
ROCKY BOY BUTYL	4700	3/29/85	---	6.6	6.2	5.0
SACAJAWEA	6550	3/25/85	35	10.0	16.7	15.7
SADDLE MOUNTAIN	7940	3/25/85	72	23.2	23.2	26.5
SADDLE MTN BUTYL	7900	4/01/85	---	22.6	24.2	27.0
SAND BASIN LOWER	6480	3/28/85	44	11.9	9.8	15.6
SENTINEL CREEK	8300	3/28/85	68	18.4	21.8	25.3
SHOWER FALLS	8100	3/26/85	64	18.8	24.3	24.9
SHOWER FALLS BUTYL	8100	4/01/85	---	20.6	26.1	24.5
SILVER RUN	6630	3/27/85	15	4.0	6.0	6.6
SILVER RUN BUTYL	6630	4/01/85	---	4.4	7.2	6.4
SKALKAHO SUMMIT	7250	3/28/85	68	23.0	20.7	27.6
SKALKAHO SUMMIT BTYL	7260	4/01/85	---	20.1	19.5	27.9
SKYLARK TRAIL METAL	6200	4/01/85	---	34.6	27.7	35.8
SLAG-A-MELT LAKE	8750	3/29/85	68	20.2	24.5	27.3
SLIDE ROCK MOUNTAIN	7100	3/27/85	47	13.6	14.6	18.1
SMUGGLER MINE	6960	3/27/85	46	9.1	13.5	10.9
SOUTH FORK SHIELDS	8100	4/01/85	75	22.6	30.0	26.4
S.FK. SHIELDS BUTYL	8100	4/01/85	---	16.2	21.9	18.5
SPOTTED BEAR MTN.	7000	4/03/85	44	15.4	11.4	15.9
SPUR PARK	8100	3/28/85	74	21.0	19.6	22.7
SPUR PARK BUTYL	8100	4/01/85	---	22.1	19.8	23.0
STAHL PEAK	6030	3/25/85	97	38.3	34.7	41.1
STAHL PEAK BUTYL	6030	4/01/85	---	32.0	28.5	35.3
STAR LAKE E	9650	4/02/85	105	40.0	29.5	46.6
STEMPLE PASS	6600	3/26/85	41	12.2	7.2	11.2
STORM LAKE	7780	3/27/85	56	12.8	15.3	14.6
STRYKER BASIN	6180	3/26/85	82	28.1	27.0	37.0
STUART MILL	6500	3/26/85	28	6.0	6.4	7.3
STUART MOUNTAIN	7400	4/03/85	77	29.0	34.0	34.0
SUCKER CREEK	3960	3/29/85	4	.8	.0	.4
TAYLOR ROAD	4080	3/29/85	17	4.8	3.6	2.9
TEN MILE LOWER	6600	3/27/85	31	8.2	6.7	8.1
TEN MILE MIDDLE	6800	3/27/85	45	11.5	10.2	12.8
TEN MILE UPPER	8000	3/27/85	49	13.4	12.4	14.8
TEPEE CREEK	8000	3/30/85	54	15.2	16.1	16.3
TEPEE CREEK BUTYL	8000	4/01/85	---	11.7	14.5	13.6
TIMBERLINE CREEK	8850	3/27/85	45	12.0	12.8	15.8
TRAIL CREEK	7090	3/30/85	34	8.1	8.6	9.2
TRINKUS LAKE	6100	4/03/85	113	44.5	43.0	45.1
TRUMAN CREEK	4060	3/29/85	22	6.4	1.2	2.2
TV MOUNTAIN	6800	4/03/85	52	17.8	19.4	20.3
TWELVEMILE CREEK	5600	3/27/85	57	20.4	17.3	23.4
TWELVEMILE BUTYL	5600	4/01/85	---	17.8	14.7	20.1
TWENTY-ONE MILE	7150	3/29/85	56	15.2	14.4	18.9
TWIN CREEKS	3580	4/03/85	32	12.3	5.1	11.6
TWIN LAKES	6510	3/27/85	100	37.5	35.4	44.1
TWIN LAKES BUTYL	6400	4/01/85	---	34.6	31.1	42.4
UPPER HOLLAND LAKE	6200	4/03/85	91	32.4	30.6	37.5
WALDRON	5600	3/31/85	35	10.8	3.8	11.2
WALDRON BUTYL	5600	4/01/85	---	11.7	6.0	10.1
WARM SPRINGS	7800	4/01/85	56	15.7	19.1	21.1
WARM SPRINGS BUTYL	7800	4/01/85	---	15.7	20.9	23.2
WEASEL DIVIDE	5450	3/25/85	88	34.7	23.3	35.4
WEST YELLOWSTONE	6700	3/30/85	50	12.8	9.6	12.5
WEST YELL'ST BUTYL	6700	3/30/85	---	10.4	8.1	10.4
WHISKEY CREEK	6800	3/25/85	65	21.2	16.7	21.9
WHISKEY CREEK BUTYL	6800	4/01/85	---	18.2	13.1	18.3
WHITE MILL	8700	3/28/85	79	25.0	21.0	29.6
WHITE MILL BUTYL	8700	4/01/85	---	21.8	18.6	26.3
WHITE PINE RIDGE	8850	3/30/85	23	4.5	7.1	5.8
WILLOW CREEK	6500	4/01/85	30	9.4	10.0	9.7
WOOD CREEK	5960	4/02/85	40	13.4	4.7	14.8
WOOD CREEK METAL	5960	4/01/85	---	16.2	4.5	15.2
WRONG CREEK	5700	3/28/85	40	13.5	7.0	15.0
WRONG RIDGE	6800	3/28/85	54	18.5	11.8	20.9
ALBERTA						
AKAMINA CAN.	5810	4/01/85	78	25.0	12.1	--
ALLISON PASS CAN.	6490	3/29/85	56	16.3	12.1	19.5
BOW RIVER CAN.	5080	4/01/85	28	6.9	5.6	8.3
BOW RIVER SUMMIT CAN.	6660	4/01/85	44	12.4	13.0	14.4
CHATEAU LAWN CAN.	5710	4/01/85	32	8.3	7.7	10.8
CUTHEAD LAKE CAN.	7250	4/01/85	44	12.2	13.0	15.3
HIGHWOOD SUMMIT CAN.	7250	4/01/85	48	12.8	13.0	15.4
GABLE MOUNTAIN CAN.		4/01/85	24	5.1	--	--
GARDINER HEAD. CAN.		4/01/85	86	30.8	--	--
KATHERINE LAKE CAN.	7810	4/01/85	46	13.0	15.3	--
LARCH VALLEY CAN.	7740	4/01/85	44	11.9	14.9	17.0
LEE CREEK D CAN.		4/01/85	31	8.7	--	8.4
LEE CREEK E CAN.		4/01/85	38	11.0	--	10.2
LEE CREEK F CAN.		4/01/85	20	6.5	--	7.0
LEE CREEK P CAN.		4/01/85	23	6.3	--	6.6
LEE CREEK O CAN.	4890	4/01/85	28	7.8	4.1	6.9
LOST CREEK CAN.		4/01/85	63	17.9	--	--
LT. ELBOW SUMM CAN.	7090	4/01/85	45	12.1	9.2	11.3
MARMOT-JASPER. CAN.		4/01/85	31	7.8	--	9.7
MCCONNELL CREEK CAN.		4/01/85	26	5.2	--	--
MIDDLE DRYWOOD CAN.	5150	4/01/85	6	1.6	1.4	1.9
MIRROR LAKE CAN.	6590	4/01/85	31	8.3	9.4	11.8
MIST CREEK CAN.	5740	4/01/85	29	7.4	5.9	7.8
MOUNT SKOKI CAN.	6740	4/01/85	40	10.4	12.2	13.5
MUD LAKE CAN.	6200	4/01/85	43	12.0	10.1	12.6
NIGEL CREEK CAN.	6400	4/01/85	45	12.1	--	16.5
PIPESTONE UPPER CAN.	5300	4/01/85	30	7.7	6.0	8.2
PTARMIGAN HUT CAN.	7150	4/01/85	46	13.3	14.8	16.3
RACEHORSE CREEK CAN.		4/01/85	60	19.0	--	--
SUNSHINE VILLAGE CAN.	7300	4/01/85	59	18.8	18.4	24.8
SUNWAPTA FALLS CAN.	4590	4/01/85	26	6.4	--	7.3
TENT RIDGE CAN.		4/01/85	46	13.0	--	--
THREE ISLE LAKE CAN.	7090	4/01/85	61	20.2	21.4	--
W.CASTLE (BUSH) CAN.	4990	4/01/85	55	18.1	8.9	--
WILKINSON BUSH CAN.	6490	4/01/85	40	9.4	5.4	8.6
WILKINSON OPEN CAN.	6490	4/01/85	30	6.2	3.9	7.2
BRITISH COLUMBIA						
BEAVER FOOT CAN.	6200	3/27/85	26	5.3	4.1	9.7
FERNIE CAN.	3500	3/28/85	28	9.1	.0	8.0
FERNIE EAST(NEW) CAN.	4100	3/28/85	46	15.0	8.7	15.6
FERNIE NE CAN.	3500	3/28/85	36	12.1	3.7	10.6
FIDELITY MTN. CAN.	6100	3/26/85	99	39.5	42.0	51.0
FIELD CAN.	4200	3/29/85	22	6.3	--	6.1
FLOE LAKE CAN.	6860	3/27/85	67	22.5	23.2	30.9
GLACIER CAN.	4100	3/26/85	62	22.8	22.7	30.4
GRAY CK. LOWER CAN.	5100	3/28/85	57	18.0	16.7	19.1
GRAY CK UPPER CAN.	6270	3/28/85	79	25.6	27.3	32.2
KICKING HORSE CAN.	5400	3/29/85	42	12.2	11.3	14.7
KIMBERLEY CAN.	3810	3/29/85	20	5.0	.0	6.9
LOWER KIMBERELY CAN.	4500	3/28/85	22	6.4	2.2	7.6
KIMBERLEY MID. CAN.	5510	3/28/85	37	10.7	8.0	12.8
UPPER KIMBERLEY CAN.	7020	3/29/85	48	13.5	13.4	21.1
MARBLE CANYON CAN.	4990	3/29/85	40	6.9	7.8	14.4
MORRISSEY RIDGE CAN.	6100	3/27/85	71	27.6	20.2	29.4
MOUNT ABBOT CAN.	6500	3/26/85	99	36.0	40.4	50.9
MT ASSINIBOINE CAN.	7320	3/27/85	52	15.6	17.1	21.3
MOUNT JOFFRE CAN.	5740	3/27/85	43	12.3	9.9	15.4
MOYIE MTN CAN.	6400	3/29/85	50	16.5	12.8	19.4
SINCLAIR PASS CAN.	4500	3/28/85	19	3.8	3.1	5.5
SULLIVAN MINE CAN.	5090	4/02/85	35	10.4	6.7	13.9
THUNDER CREEK CAN.	6600	3/27/85	35	8.1	7.7	11.5
UPPER ELK RIVER CAN.	4400	3/30/85	17	5.9	.0	5.8
VERMONT CREEK CAN.	4990	3/27/85	43	13.4	--	19.4
IDAHO						
BEAR MOUNTAIN	5400	3/25/85	138	56.7	41.1	62.9
BEAR MTN SNOTEL	5400	4/01/85	---	60.7	--	--
BIG SPRINGS	6400	3/26/85	60	18.7	17.8	21.9
BLACK CANYON	7960	4/01/85	---	32.2E	29.8	35.8
BLACK MOOSE	8160	4/01/85	---	35.7E	29.0	40.6
BLUE LEDGE MINE	6900	3/30/85	59	14.4	16.0	17.5
CAMP CREEK	6580	3/29/85	46	10.8	9.2	11.5
CRAB CREEK SNOTEL	6860	4/01/85	---	15.5	--	--
GOAT LAKE	6500	3/28/85	123	45.3	33.3	47.7
HUMBOLDT GULCH	4250	4/01/85	52	17.8	9.0	--
HUMBOLDT GLCH SNOTEL	4250	4/01/85	---	16.0	--	--
ISLAND PARK	6290	3/26/85	54	17.1	16.0	17.4
ISLAND PARK SNOTEL	6290	4/01/85	---	17.0	--	--
KILGORE	6320	3/30/85	41	11.0	13.7	11.8
KIT CARSON PASTURE	4950	3/26/85	29	6.6	9.0	9.4
LATHAM SPRINGS	7630	3/25/85	76	24.2	25.5	31.4
LOLO PASS	5240	3/29/85	71	29.8	20.8	31.8
LOLO PASS SNOTEL	5240	4/01/85	---	30.4	--	--
LOOKOUT	5140	3/28/85	101	37.9	25.4	36.3
LUCKY DOG	6860	3/25/85	67	22.6	23.4	25.9
MOOSE CREEK	6200	3/26/85	53	15.8	19.2	16.8
MOOSE CR SNOTEL	6200	4/01/85	---	10.0	--	--
MOSQUITO RIDGE	5200	4/02/85	98	39.4	28.2	38.9
MOSQUITO SNOTEL	5200	4/01/85	---	41.0	--	--
SAVAGE PASS	6170	3/28/85	76	25.9	21.5	28.4
SAVAGE PASS SNOTEL	6170	4/01/85	---	27.2	--	--
SAWTELL MOUNTAIN	8720	3/26/85	100	34.1	34.9	35.9
SMITH CREEK	4800	3/29/85	106	41.6	35.5	47.2
SUNSET	5540	4/02/85	82	30.0	22.6	34.3
TARGHEE PASS	6980	4/01/85	---	15.0E	12.0	[illegible]
VALLEY VIEW	6680	3/26/85	54	16.8	14.3	18.0
WHITE ELEPHANT	7710	3/26/85	73	23.2	23.1	26.3
WHITE ELEPHANT SNTEL	7710	4/01/85	---	25.9	--	27.2
WYOMING						
BALD MOUNTAIN	9380	3/27/85	60	14.6	21.9	24.2
BALD MOUNTAIN SNOTEL	9380	4/01/85	---	17.6	19.7	--
BEARTOOTH LK. SNOTEL	9280	4/01/85	---	17.8	14.9	--
BURGESS RANGER STA	7880	4/01/85	35	8.1	10.3	8.8
BURGESS JCT. SNOTEL	7880	4/01/85	---	11.1	12.4	--
CANYON (DISC.)	7940	3/31/85	54	14.0	11.5	16.8
CANYON SNOTEL	7940	4/01/85	---	14.1	11.5	16.8
EAST ENTRANCE	6960	3/30/85	31	7.3	6.8	9.7
EVENING STAR SNOTEL	9200	4/01/85	---	23.3	23.1	--
LAKE CAMP	7780	3/30/85	40	9.2	8.2	10.3
LUPINE CREEK	7380	3/31/85	44	10.2	7.6	11.0
NORRIS BASIN (OLD)	7500	4/01/85	37	9.5	7.0	11.5
NORRIS BASIN (NEW)	7500	4/01/85	39	8.0	7.4	--
NORTH TONGUE	8450	4/01/85	---	11.6E	13.1	14.3
OLD FAITHFUL	7400	3/31/85	62	10.7	10.2	16.0
PARKERS PEAK AM	9400	4/02/85	67	20.4	--	32.1
PARKERS PEAK SNOTEL	9400	4/01/85	---	18.6	17.5	32.1
SYLVAN LAKE SNOTEL	8420	4/01/85	---	20.9	20.2	--
SYLVAN PASS	7100	3/30/85	39	9.8	9.8	13.9
THUMB DIVIDE	7980	3/27/85	84	22.7	14.8	22.0
TOGWOTEE PASS	9580	3/28/85	74	23.4	26.3	30.6
TOGWOTEE PASS SNOTEL	9580	4/01/85	---	21.2	21.6	--
TROUT CREEK SNOTEL	8400	4/01/85	---	8.3	5.8	--
TWO OCEAN SNOTEL	9160	4/01/85	---	22.8E	21.7	32.1
WOLVERINE	7650	4/01/85	---	9.4E	6.5	13.8
WOLVERINE SNOTEL	7650	4/01/85	---	8.8	6.7	--
YOUNTS PEAK AM	8350	3/30/85	48	13.5	--	21.8
YOUNTS PEAK SNOTEL	8350	4/01/85	---	15.5	11.8	21.8

1935-1985

50 Years of Soil and Water Conservation

Columbia River Drainage

STREAMFLOW FORECASTS

APRIL 1, 1985

BASIN, STREAM and/or FORECAST POINT	APRIL - SEPTEMBER: This Year Forecast, Thousand Acre Feet	This Year Forecast, Percent of Average	Past Record (Thousand Acre Feet), Last Year	Past Record, Average	APRIL - JULY: This Year Forecast, Thousand Acre Feet	This Year Forecast, Percent of Average	Past Record (Thousand Acre Feet), Last Year	Past Record, Average	APRIL - JUNE: This Year Forecast, Thousand Acre Feet	This Year Forecast, Percent of Average	Past Record (Thousand Acre Feet), Last Year	Past Record, Average
KOOTENAI RIVER below Libby Dam (1)	5,910	84	5,466	7,041	5,050	84	4,520	6,020				
FISHER RIVER near Libby	272	103		264	258	104		248				
YAAK RIVER near Troy	470	90		523	450	90		500				
KOOTENAI RIVER at Leonia (1)	7,420	86	6,534	8,602	6,470	86	5,596	7,498	5,200	86	4,282	6,051
INFLOW MOULTON RESERVOIR nr Butte (Million Gallons)					230	87	182	263	208	88	179	237
WARM SPRINGS CREEK AT MEYERS DAM near Anaconda (2)	38.4	82		46.8	31.0	82		37.8				
FLINT CREEK near Southern Cross (3)	15.1	83	26.3	18.3	12.8	83	21.3	15.4				
FLINT CREEK below Boulder Creek (4)	61.4	81		75.8	48.5	81		59.5				
INFLOW LOWER WILLOW CREEK RESERVOIR near Hall (5)	11.8	75	11.6	15.7	11.2	74	10.2	14.9				
MIDDLE FORK ROCK CREEK near Philipsburg	65.1	83		78.2	58.7	83		70.5				
NEVADA CREEK near Finn	19.3	84		23.0	18.1	84		21.3				
BLACKFOOT RIVER near Bonner	850	85		999	770	85		904	670	86		782
CLARK FORK RIVER above Milltown (6)	670	82		816	575	81		708	490	82		597
CLARK FORK RIVER above Missoula	1,520	84	1,565	1,815	1,370	85	1,360	1,612	1,175	85	880	1,379
WEST FORK BITTERROOT RIVER near Conner (7)	148	83		178	138	84		164				
BITTERROOT RIVER near Darby	490	84		580	450	85		532	395	85		464
SKALKAHO CREEK near Hamilton	46.5	83		56.0	40.4	83		48.7				
BURNT FORK CREEK near Stevensville (8)	31.0	83		37.4	26.8	83		32.2				
BITTERROOT RIVER at Missoula (9)	1,250	83		1,504	1,150	83		1,384	990	83		1,191
CLARK FORK RIVER below Missoula	2,770	83		3,319	2,495	83		2,996	2,150	84		2,570
CLARK FORK RIVER at St. Regis	3,770	85	3,732	4,411	3,410	86	3,322	3,928	2,950	86	2,825	3,428
NORTH FORK FLATHEAD RIVER near Columbia Falls	1,743	91		1,913	1,580	91		1,732	1,340	91		1,471
MIDDLE FORK FLATHEAD RIVER near West Glacier	1,760	94	1,316	1,869	1,620	95	1,236	1,713	1,390	96	1,086	1,453
SOUTH FORK FLATHEAD RIVER near Columbia Falls (10)	2,160	95	1,515	2,278	2,034	95	1,694	2,142	1,790	95	1,416	1,886
FLATHEAD RIVER at Columbia Falls (10)	5,770	93	4,738	6,208	5,390	94	4,294	5,721	4,690	95	3,589	4,921
SWAN RIVER near Big Fork	645	94		689	570	94		604				
FLATHEAD RIVER near Polson (11)	6,800	93	5,586	7,278	6,200	93	5,102	6,712	5,350	92	4,284	5,759
CLARK FORK RIVER near Plains (11)	11,000	91	9,695	12,153	10,000	90	8,914	11,071	8,510	90	7,457	9,459
THOMPSON RIVER near Thompson Falls	250	96		261	225	97		233				
PROSPECT CREEK at Thompson Falls	142	100		142	132	100		132				
CLARK FORK RIVER at Whitehorse Rapids (12)	12,400	91		13,575	11,300	91		12,351	9,620	91		10,570

(1) Adjusted for storage in Lake Koocanusa.
(2) Adjusted for storage in Silver Lake, diversions to and pumping from Georgetown Lake.
(3) Adjusted for storage in Georgetown Lake, diversions from and pumping to Silver Lake.
(4) Sum Flint Creek at Maxville and Boulder Creek at Maxville.
(5) Sum of North Fork Lower Willow Creek near Hall and South Fork Lower Willow Creek near Hall.
(6) Difference in observed flow Clark Fork above Missoula and Blackfoot near Bonner.
(7) Adjusted for storage in Painted Rocks Reservoir.
(8) Adjusted for diversion into Sunset Highline Canal.
(9) Difference in observed flow Clark Fork above and below Missoula.
(10) Adjusted for storage in Hungry Horse Reservoir.
(11) Adjusted for storage in Hungry Horse Reservoir and Flathead Lake.
(12) Adjusted for storage in Hungry Horse Reservoir, Flathead Lake and Noxon Rapids Reservoir.

ALL FORECASTS PREPARED IN COOPERATION WITH THE NATIONAL WEATHER SERVICE

Northern drainages near average

Near to a little below average is forecast for the Kootenai and Flathead River drainages. On the Clark Fork headwaters, streamflows are predicted to be a little lower and generally in the 80 to 85 percent of average range.

Low elevation snowmelt water is beginning to appear in the streams and rivers.

Some mid- and late season shortages of irrigation water are anticipated in the Bitterroot, Clark Fork and Blackfoot River drainages, particularly on the smaller streams.

WATER SUPPLY OUTLOOK Expressed as "Poor, Fair/Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Pd: Spring Season	Late Season
Tobacco	Avg	Avg
Little Bitterroot	Avg	Avg
Mission Valley	Avg	Avg
Flint Creek	Avg	Fair
Upper Clark Fork	Avg	Fair
Nevada Creek	Avg	Avg
Blackfoot	Avg	Fair
West-side Bitterroot	Avg	Fair
East-side Bitterroot	Avg	Fair
Bitterroot River	Avg	Fair
Lower Clark Fork	Avg	Avg

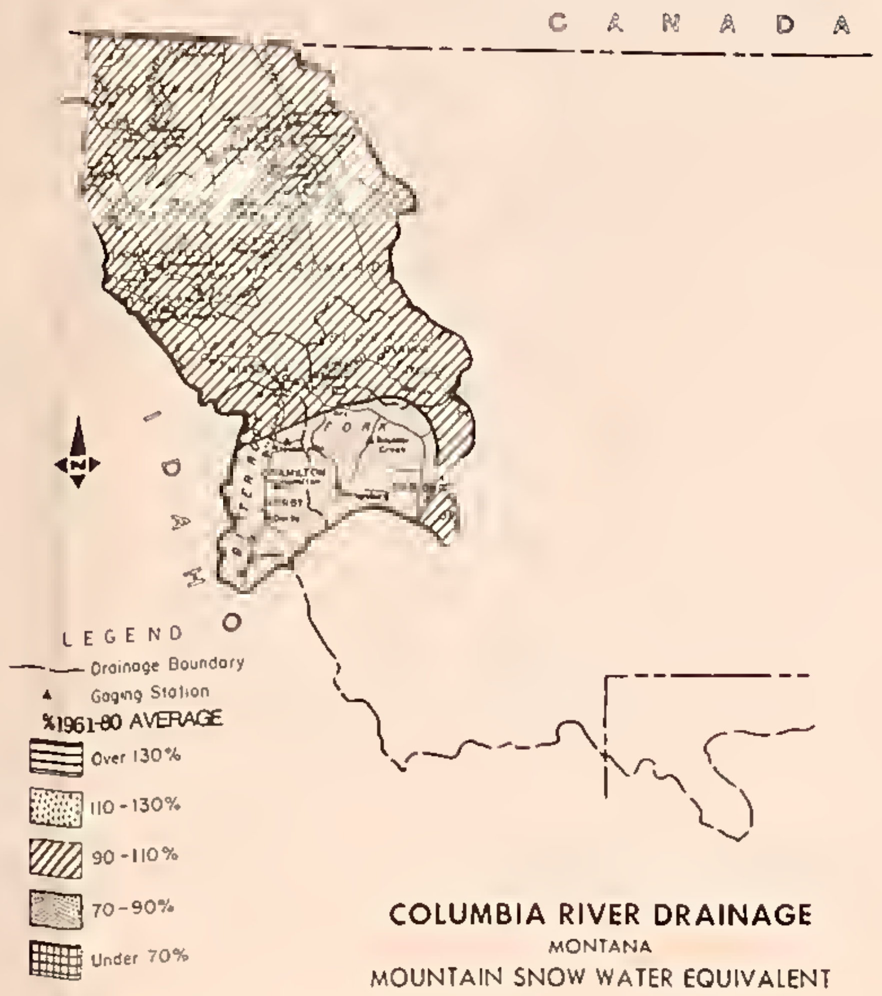
SUMMARY of SNOW MEASUREMENTS (COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	This Year's Snow Water as Percent of Last Year	Average
East Kootenay/BC.	24	117	79
Kootenai/Montana	31	168	98
Kootenai above Bonners Ferry...	55	148	91
Little Bitterroot	9	204	109
N. Fk. Flathead..	13	134	92
M. Fk. Flathead..	13	145	94
S. Fk. Flathead..	13	111	99
Swan	11	104	97
Flathead	58	124	96
Stillwater & Whitefish	9	141	90
Clark Fork above Blackfoot	46	101	85
Blackfoot	22	124	87
Upper Clark Fork above Missoula	68	108	86
Bitterroot	21	106	86
Lower Clark Fork below Missoula	20	147	100
Clark Fork (Total w/o Flathead)...	109	119	90
Pend O'Reille (Clark Fork & Flathead)	167	121	93
Columbia (Pend O'Reille & Kootenai)	222	127	92

Most of Columbia near average

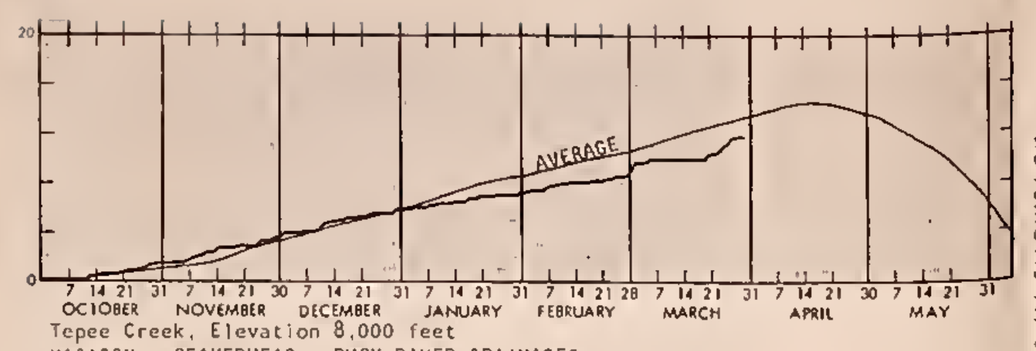
Most of the Columbia River headwaters in Montana have near average snow water content. The Bitterroot and Clark Fork River above the Blackfoot still show below average snowpack. In these areas the water stored in the snow is about 85 percent of average.

Some melt started in the lower elevations near the end of March.

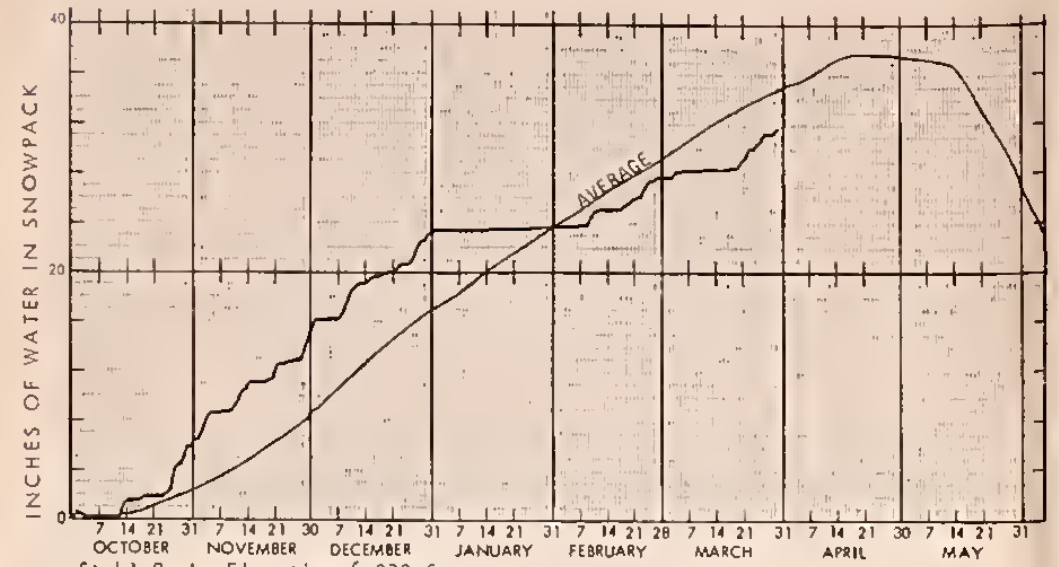


COLUMBIA RIVER DRAINAGE
MONTANA
MOUNTAIN SNOW WATER EQUIVALENT

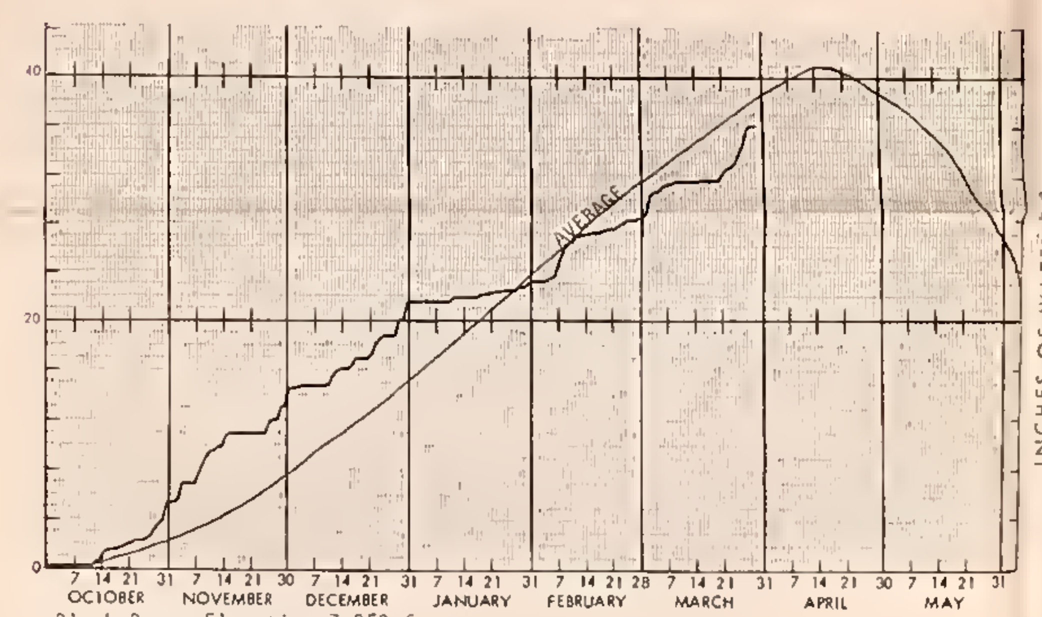
SNOW PILLOW DATA



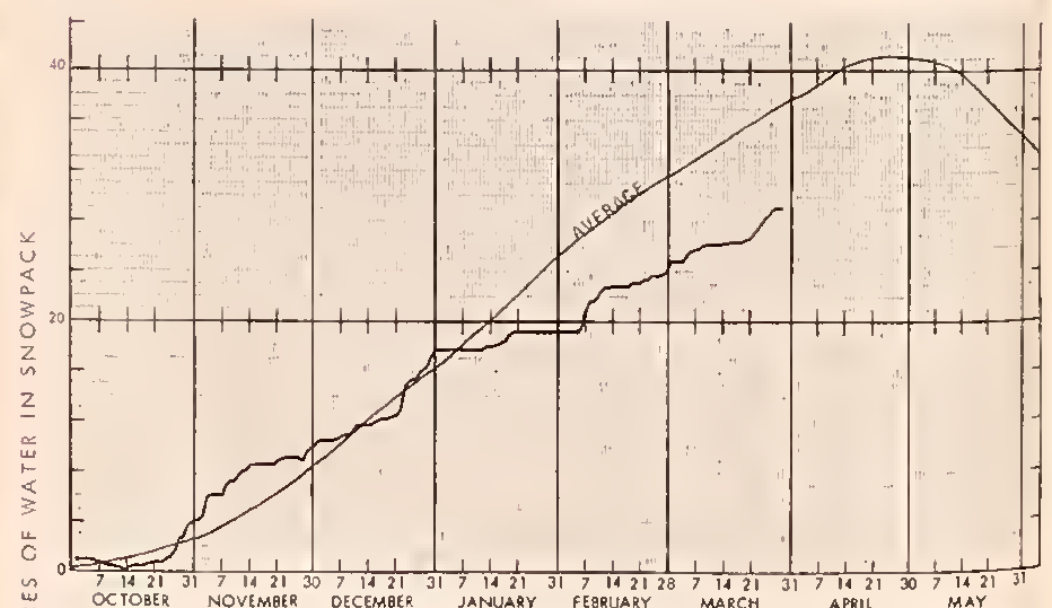
Tepee Creek, Elevation 8,000 feet
MADISON - BEAVERHEAD - RUBY RIVER DRAINAGES



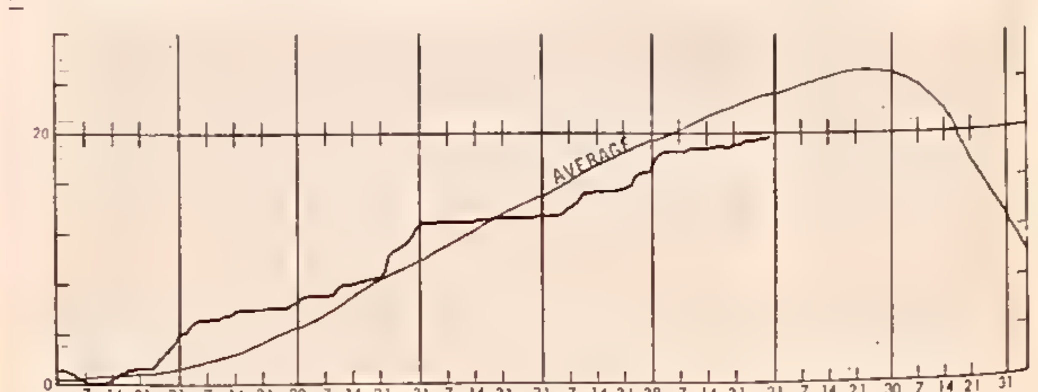
Stahl Peak, Elevation 6,030 feet
KOOTENAI - FLATHEAD RIVER DRAINAGES



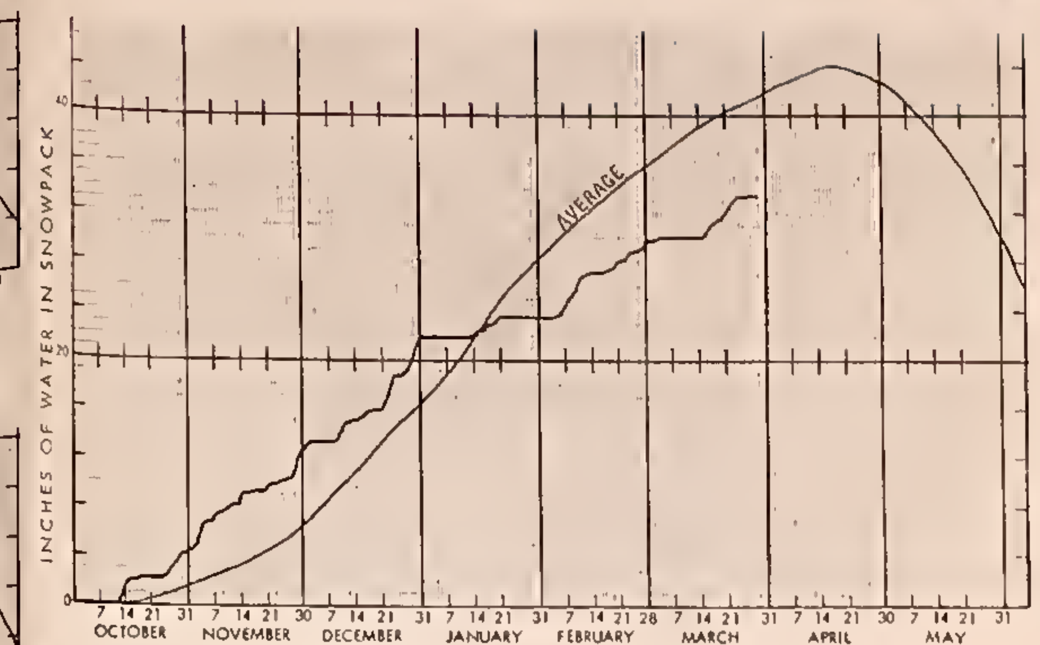
Black Bear, Elevation 7,950 feet
MADISON RIVER DRAINAGE



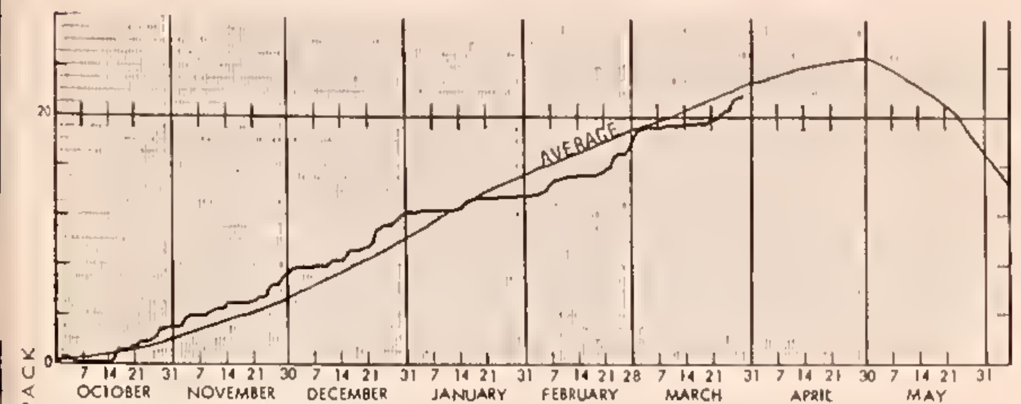
Fisher Creek, Elevation 9,100 feet
YELLOWSTONE - BOULDER - STILLWATER - CLARK'S FORK RIVER DRAINAGES



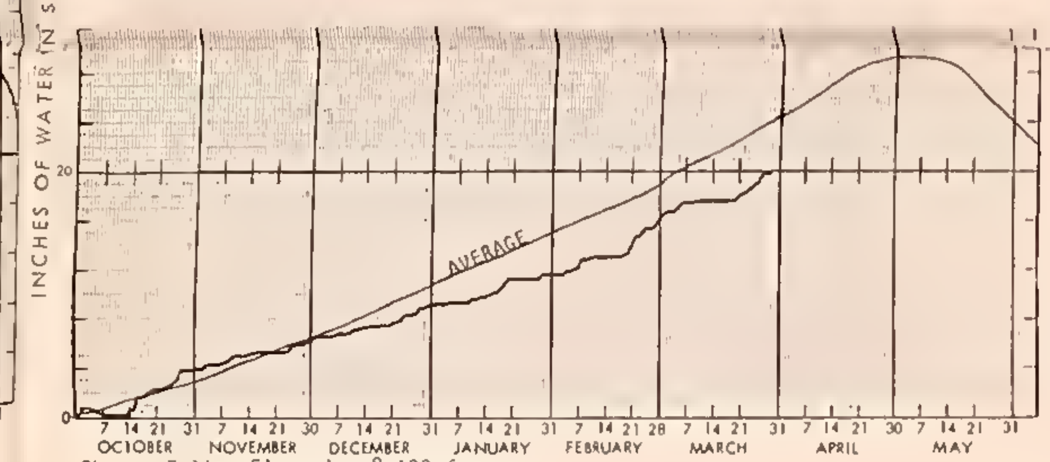
Mount Lockhart, Elevation 6,400 feet
FLATHEAD - MARIAS - TETON RIVER DRAINAGES



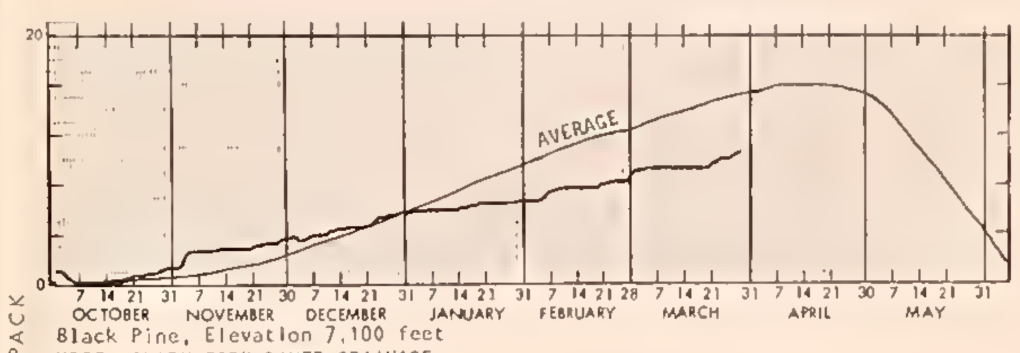
Twin Lakes, Elevation 6,510 feet
BITTERROOT RIVER DRAINAGE



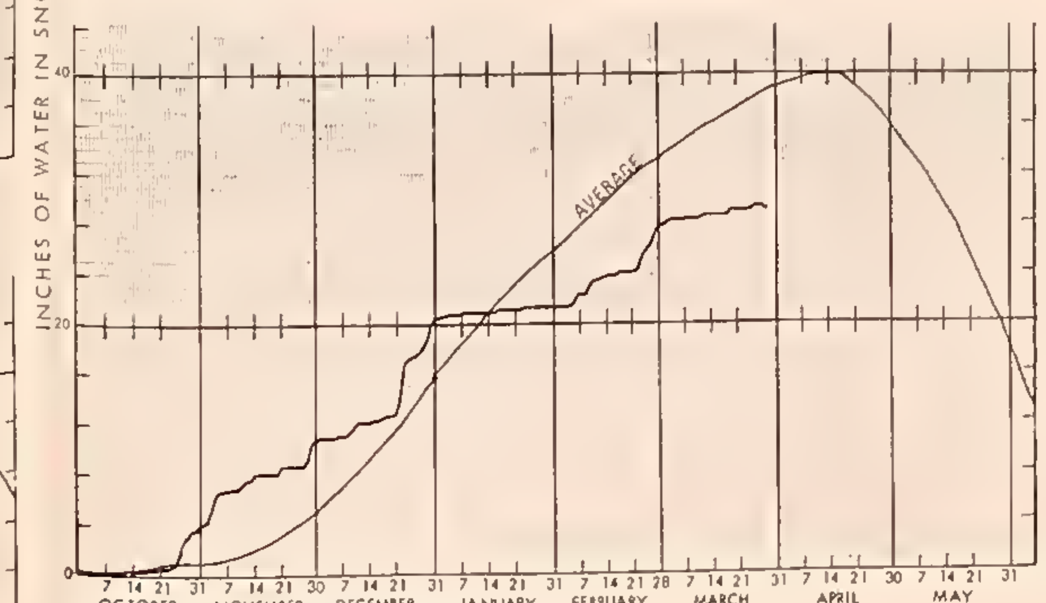
Spur Park, Elevation 8,100 feet
JUDITH RIVER DRAINAGE



Shower Falls, Elevation 8,100 feet
GALLATIN - YELLOWSTONE RIVER DRAINAGES



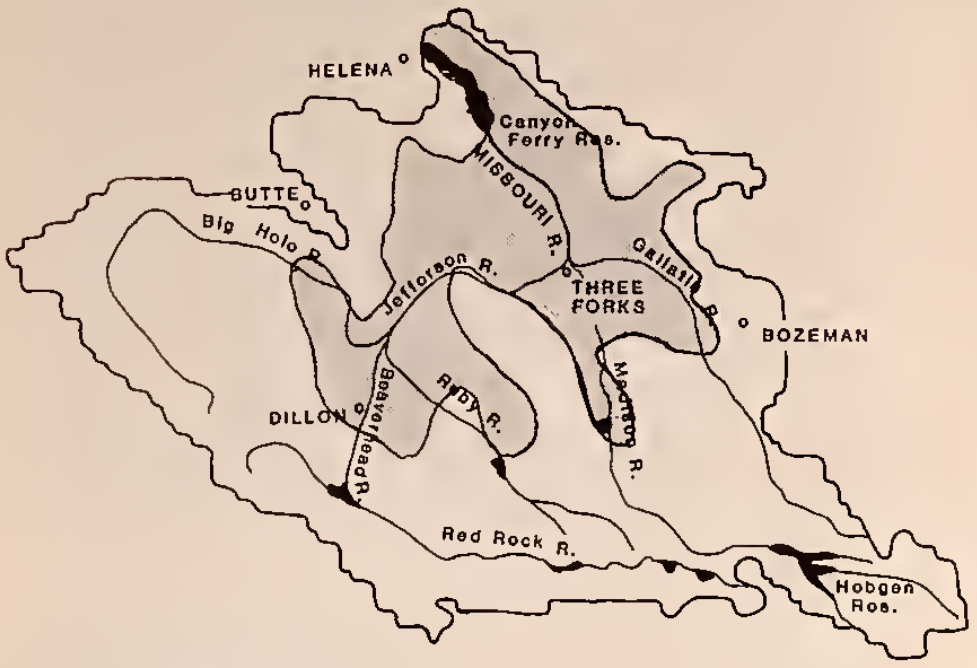
Black Pine, Elevation 7,100 feet
UPPER CLARK FORK RIVER DRAINAGE



Copper Camp, Elevation 6,950 feet
BLACKFOOT RIVER DRAINAGE

SATELLITE SNOW COVER

DATA PROVIDED BY NOAA/NWS



Snow Covered Area

Scale 1:2,500,000

April 2, 1985

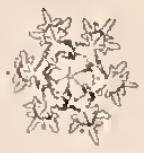
MISSOURI RIVER BASIN
Above
Canyon Ferry Dam

DATE	PERCENT SNOW COVER	AVERAGE SNOWLINE ELEVATION IN FEET
February 25, 1985	100	3800
March 7, 1985	100	3800
March 11, 1985	100	3800
March 14, 1985	97	4180
March 17, 1985	94	4450
April 2, 1985	80	5340

RESERVOIR STORAGE (Thousand Acre Feet) END OF MONTH March 31, 1985

BASIN OR STREAM	RESERVOIR	USABLE CAPACITY	USABLE STORAGE THIS YEAR	USABLE STORAGE LAST YEAR	USABLE STORAGE AVERAGE
	COLUMBIA				
Kootenai	Koocanusa	5,748.2	1,801.0	2,513.0	1,694.0
Flathead	Hungry Horse	3,451.0	1,796.0	2,074.0	2,054.0
	Flathead Lake	1,791.0	649.3	682.4	762.0
	Camas (4)	45.2	18.0	30.2	23.1
	Mission Valley (8)	100.3	37.6	58.0	41.1
Clark Fork	Georgetown Lake	31.0	24.8	27.2	23.7
	Lower Willow Creek	4.9	1.3	3.6	1.8
	Nevada Creek	12.6	4.1	8.1	7.4
	Noxon Rapids	334.6	156.2	322.3	197.6
Bitterroot	Painted Rocks	31.7	---	---	16.6
	Como	34.9	10.1	20.5	14.6
	MISSOURI				
Beaverhead	Lima	84.0	31.9	54.8	38.0
	Clark Canyon	257.2	151.8	181.0	147.6
Ruby	Ruby	38.8	33.3	34.6	30.3
Madison	Hebgen Lake	377.5	297.0	261.7	233.6
	Ennis Lake	41.0	32.3	39.0	35.0
Gallatin	Middle Creek	8.0	3.7	3.9	3.9
Missouri	Canyon Ferry	2,043.0	1,394.0	1,574.0	1,498.0
	Hauser & Helena	61.9	62.4	63.0	60.0
	Helena Valley	9.2	3.2	3.7	4.9
	Lake Helena	10.4	10.7	10.9	9.8
	Holter Lake	81.9	78.1	79.6	64.9
	Fort Peck Lake	18,910.0	15,720.0	16,010.0	15,040.0
Smith	Smith River	10.6	9.6	10.8	7.6
	Newlan Creek	12.4	9.0	8.7	9.1
Musselshell	Bair	7.0	1.2	3.8	5.2
	Martinsdale	23.1	4.8	15.1	9.6
	Deadman's Basin	72.2	48.0	63.6	49.7
Sun	Gibson	99.1	55.2	58.6	46.2
	Willow Creek	32.2	13.4	24.4	22.1
	Pishkun	32.0	18.5	19.3	18.2
Marias	Lower Two Medicine	11.9	---	---	8.0
	Four Horns	19.2	---	---	12.6
	Swift	30.0	10.7	14.4	16.8
	Lake Frances	111.9	24.8	47.6	71.2
	Elwell (Tiber)	1,347.0	680.9	693.1	562.3
Milk	Beaver Creek	3.5	1.1	3.2	2.1
	Fresno	127.2	16.3*	40.4	86.7
	Nelson	66.8	15.9	40.2	38.7
	HUDSON BAY				
St. Mary's	Lake Sherburne	64.3	31.9	10.5	24.0
	YELLOWSTONE				
Stillwater	Mystic Lake	21.0	1.0	1.6	4.2
Clark's Fork	Cooney	27.4	21.7	19.5	15.8
Tongue	Tongue River	68.0	16.2	23.8	41.6
Bighorn	Bighorn Lake	1,356.0	866.7	850.9	607.2

*NOTE: Fresno Reservoir storage on 2/28/85 was listed as 75.1. The correct storage should have been 7.5.



Snow should continue to accumulate at high elevations throughout April.

AGENCIES AND ORGANIZATIONS COOPERATING IN MONTANA SNOW SURVEYS

GOVERNMENT AGENCIES

Canada
- Department of the Environment
  - Atmospheric Environment Service
  - Water Management Service
- British Columbia Ministry of Environment
  - Inventory and Engineering Branch, Hydrology Section
- Alberta Environment
  - Technical Services Division

Federal
- Department of the Army - Corps of Engineers
- Department of Agriculture - Forest Service
- Department of Agriculture - Soil Conservation Service
- Department of Commerce - National Environmental Satellite Service
- Department of Commerce - National Weather Service
- Department of Interior - Bureau of Indian Affairs
- Department of Interior - Fish and Wildlife Service
- Department of Interior - Geological Survey
- Department of Interior - National Park Service
- Department of Interior - Bureau of Reclamation
- Department of Energy - Bonneville Power Administration

STATE AGENCIES
- Montana Conservation Districts
- Montana Department of Fish, Wildlife and Parks
- Montana Department of Natural Resources and Conservation
- Montana State University - Agricultural Experiment Station
- University of Montana - School of Forestry

PRIVATE ORGANIZATIONS
- The Anaconda Company
- Big Sky of Montana
- Butte Water Company
- Flathead Valley Community College
- Montana Power Company
- Pondera County Canal & Reservoir Company

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.

U.S. GOVERNMENT PRINTING OFFICE 1985 593-046